

31 to 46. After an average stay in nitrogen of 2 hours, the value for 20 experiments was 43.4, extremes 30 to 64. The phosphagen content of those analyzed at once averaged 5.1 mg. % and showed little change on standing in oxygen. After 2 hours' anoxia, the value had fallen to 1.6. A definite decrease in phosphagen in the asphyxiated compared with the control nerve was apparent in each experiment. The phosphate present in the soluble fraction exclusive of the inorganic and phosphagen phosphate was 12 mg. %. This fraction was decreased to 8 mg. % during asphyxia. The inorganic phosphate increased in asphyxia by an amount corresponding to the decrease in the other two. The few experiments on stimulation did not lead to a definite change in the phosphate fractions, but neither the number of experiments nor the conditions of stimulation justify a conclusion on this point. Chopping and warming the nerves led to a complete breakdown of phosphagen with but little decrease in the other combined phosphate fraction. These results closely parallel previous findings on the frog sciatic³.

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Studies on Calcium. VI. Effective Dose of Calcium Gluconate Subcutaneously Administered in Completely Parathyroidectomized Dogs.*

E. BOURNS. (Introduced by A. B. Luckhardt.)

From the Physiological Laboratory, University of Chicago.

Lieberman and Szurek¹ have previously shown that parathyroid tetany can be prevented (dogs) by injecting subcutaneously large quantities of calcium gluconate (in 10% concentration). Whereas this salt of calcium is the only one so far described which can be injected subcutaneously without causing necrosis, no attempt was made to determine how *little* of a 10% solution sufficed to prevent the appearance of tetany following a single daily subcutaneous injection of this salt on the basis of cc/kg body weight in the thyroparathyroidectomized animal.

Method. Complete data were obtained from 5 dogs. The average weight of the dogs was 10 kg. (Extremes: 7.5 kg.-13.5 kg.). For the the first 2 weeks after operation the animals were put on milk and meat diet. Thereafter, on dog biscuit diet.

* Work done on grant from the Sandoz Fund.

¹ Lieberman and Szurek, *J. Pharm. and Exp. Therap.*, 1931, **41**, 333.

Syringe and needle were sterilized in 70% ethyl alcohol. The shaved skin area through which the subcutaneous injections were to be made was "sterilized" with 70% alcohol, which seemed to be a better disinfectant than an alcoholic picric acid solution. A 10% solution of calcium gluconate was used throughout.

As everyone knows who has worked with parathyroidectomized dogs, each animal presents an individual problem, probably because of the difference in the degree of parathyroid deficiency produced by the usual thyro-parathyroidectomy. The amount of calcium (in terms of cc. of a 10% solution of calcium gluconate) necessary to prevent tetany is therefore only an approximation which we hope will nevertheless be found useful to those working in this field (on dog or man).

To be certain that tetany would ensue in a given animal, no injection was given after the operation until definite signs of tetany appeared. After restoring the animal to an apparently normal status by a large dose of calcium gluconate, the dose was cut down in time until on a given dose tetany appeared.

Results and Discussion. Briefly, thyroparathyroidectomized animals will remain in normal state of health without evincing tetany if given subcutaneously 1.5 cc. of a 10% solution of calcium gluconate per kilo of body weight daily even when on a fairly high protein intake. A slight induration of the skin is likely to ensue if the solution is injected in the same area over a prolonged period of time (months).

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Sixteen Months Survival with Complete Biliary Obstruction in a Dog.

L. E. DOSTAL AND EDMUND ANDREWS.*

From the Department of Surgery, University of Chicago.

The longest survival that we have been able to find in jaundiced dogs is that reported by Still,¹ 205 days. For that reason the findings in one of our animals who lived over twice that long in apparent good health is of interest.

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¹ Still, K. S., and Carlson, A. J., *Am. J. Physiol.*, 1929, **89**, 34.